METHODS OF FEED PURIFICATION FOR OLEFIN POLYMERIZATION

ABSTRACT

A polymerization process is provided. For example, a polymerization process is described, including contacting olefin monomers with a supported metallocene catalyst to polymerize the olefin monomers and form a product mixture that includes polyolefins macromers or polymers, unreacted or partially reacted olefin monomers, alcohols and organohalides. The polymerization process further includes removing a portion of the product mixture to form a recycle stream and passing the recycle stream through a removal device comprising zeolite particles having pore size of from 6 to 16 Å to transfer at least a portion of the alcohols and organohalides from the recycle stream to the removal device providing a purified recycle stream having alcohols and organohalides in an amount of 1 ppm or less. The polymerization process may further include contacting at least a portion of the purified recycle stream with the supported metallocene catalyst to form polyolefins.